APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,964	03/31/2004	Holger Schwedes	34874-092 UTIL	7712

64280 7590 04/19/2007	EXAMINER
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY & POPEO, P.C.	RAAB, CHRISTOPHER J
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	ART UNIT	PAPER NUMBER
SUITE 600 SAN DIEGO, CA 92121	2166	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

		Application No.	Applicant(s)
Office Action Summary		10/815,964	SCHWEDES, HOLGER
		Examiner	Art Unit	
		Christopher J. Raab	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>06 February 2007</u>.

2a) ☒ This action is **FINAL**. · 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-10,13 and 14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-10,13 and 14* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

01.   This action is in response to Applicant's amendment filed on **02/06/07**. **Claims 1**

– 10, and 13 – 14 are pending in the present application. **This action is made FINAL,**

as necessitated by amendment.

Claim Rejections – 35 USC § 112

02.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

03.   **Claims 1 – 10, 13 – 14** are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. The phrase "sorts the ordered list into one or

more blocks of equivalent terms and sorts equivalent terms with upper case letters

before equivalent terms with lower case letters" renders the claim indefinite because it is

unclear what Applicant's intended metes and bounds of the claims are.

Claim Rejections - 35 USC § 103

04.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious
> at the time the invention was made to a person having ordinary skill in the art to which said
> subject matter pertains. Patentability shall not be negatived by the manner in which the invention
> was made.

05.　　The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.　　　Determining the scope and contents of the prior art.
2.　　　Ascertaining the differences between the prior art and the claims at issue.
3.　　　Resolving the level of ordinary skill in the pertinent art.
4.　　　Considering objective evidence present in the application indicating obviousness or nonobviousness.

06.　　**Claims 1 – 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over

United Scripters [Multi Binary and Binary Search] (February 08, 2004) hereinafter

United Scripters 1, in view of **United Scripters [Symmetrical sorting: multisort]**

(February 21, 2004) hereinafter United Scripters 2.

Consider **claims 1 – 5**, United Scripters 1 clearly show a method comprising:

searching an Array (read as dictionary comprising an ordered list of terms) (page

3 lines 7 – 10);

sorting an Array (read as setting a dictionary sorting function to sort the ordered

list of terms) (page 18 lines 8 – 20);

performing a binary search which divides each Array in slices and if it finds at the

middle of that slice a range within which the searched for item is located, it shrinks it

there, otherwise divides by half again (read as determining whether the term

corresponding to the search term is in an upper or lower half of the ordered list, further

comprising selecting an upper or lower half of the of the ordered list that includes the

search term) (page 2 lines 20 – 28) to return a found instance (read as determining

whether the term corresponding to a search term is the last term in the remaining

ordered list and returning the term to a search engine) (page 3 lines 2 – 5, page 4 lines 25 - 34).

However, United Scripters 1 does not specifically disclose sorting the terms based on case sensitivity.

United Scripters 2 however discloses a method such that a case sensitive routine can be used to sort the Array, such that all capital letters will come before all lower case letters (read as sort the ordered list of terms based on case sensitivity, the dictionary sorting function sorts the ordered list into one or more blocks of equivalent terms and sorts equivalent terms with upper case letters before equivalent terms with lower case letters) (page 3 lines 1 – 18).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sorting algorithm taught by United Scripters 2 into the binary search taught by United Scripters 1 for the purpose of allowing case sensitive searches to commence properly.

07.   **Claims 6 – 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **United Scripters [Multi Binary and Binary Search] (February 08, 2004)** in view of **United Scripters [Symmetrical sorting: multisort] (February 21, 2004)** in further view of **Narayana Vyas Kondreddi "Case Sensitive Search In SQL Server Queries" (February 05, 2004)** hereinafter Kondreddi.

searching an Array (read as dictionary comprising an ordered list of terms) (page 3 lines 7 – 10);

sorting an Array (read as setting a dictionary sorting function to sort the ordered list of terms) (page 18 lines 8 – 20);

performing a binary search which divides each Array in slices and if it finds at the middle of that slice a range within which the searched for item is located, it shrinks it there, otherwise divides by half again (read as determining whether the term corresponding to the search term is in an upper or lower half of the ordered list, further comprising selecting an upper or lower half of the of the ordered list that includes the search term) (page 2 lines 20 – 28) to return a found instance (read as determining whether the term corresponding to a search term is the last term in the remaining ordered list and returning the term to a search engine) (page 3 lines 2 – 5, page 4 lines 25 - 34);

performing a classical binary search (read as executing a binary search of the dictionary according to the dictionary sorting function) (page 2 lines 20 – 28) and such that capital letters would all go before the lowercase ones and numbers starting with the same number would be associated (read as based on the binary numbers corresponding to the ASCII coding of alphanumeric characters in the ordered list of terms) (page 18 lines 8 – 20);

returning an Array, which collects all the position indexes (read as determining a last term of the ordered list that is insensitively equal to a search term) (page 3 lines 7 – 10).

However, United Scripters 1 does not specifically disclose sorting the terms based on case insensitivity.

United Scripters 2 however discloses a method such that a case insensitive routine can be used to sort the Array, such that all capital letters will come before all lower case letters (read as sort the ordered list of terms based on case insensitivity, the dictionary sorting function sorts the ordered list into one or more blocks of equivalent terms and sorts equivalent terms with upper case letters before equivalent terms with lower case letters) (page 3 lines 1 – 18).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sorting algorithm taught by United Scripters 2 into the binary search taught by United Scripters 1 for the purpose of allowing case insensitive searches to commence properly.

United Scripters 1 as modified by United Scripters 2 shows the claimed invention except for converting the search terms before searching.

Narayana Yvas Kondreddi however does disclose a method wherein the user input is converted to lower case for the purpose of searching the database (read as converting the search term to all lowercase characters to obtain the last term of the ordered list) (page 1 lines 27 – 33).

Therefore it would have been obvious to one of ordinary skill in the art to combine the conversion technique taught by Narayana Yvas Kondreddi into the binary search method taught by United Scripters 1 in view of United Scripters 2 for the purpose of allowing a different flow for the search of the database.

Consider **claims 7 – 10**, and **as applied to claim 6 above**, United Scripters 1 clearly show a method comprising steps of: returning either the position index of the first

item found matching the given searched value, or an Array which collects all the

positions indexes where such value has been found in the Array such that you can

search for all the entries that match the given searched value by making micro loops

around the index unless you find a higher or a lower number in order to assess the

boundaries of the item (read as determining whether each term in the ordered list is

insensitively equal to a search term, and if a term in the ordered list is insensitively

equal to a search term, adding the term to a result list, and if a term in the ordered list is

not insensitively equal to a search term, evaluating a next term in the ordered list, and

compiling one or more terms in a result list and returning the result list to a search

engine, (page 3 lines 7 – 10).

08.　　**Claims 13 – 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over

United Scripters [Multi Binary and Binary Search] (February 08, 2004) in view of

United Scripters [Symmetrical sorting: multisort] (February 21, 2004) in further

view of **fsu.edu "Instructions For Searching The Special Collection Web Site"**

(January 13, 2004) hereinafter fsu.edu.

Consider **claim 13**, United Scripters 1 clearly show a system comprising:

a way to receive an input Array object (read as receive a user search query for a

search of the dictionary) (page 4 lines 5 – 6) to return an Array whose each entry is the

numerical index value of the input Array where an instance of the given find argument

was located (read as return a search result list) (page 4 lines 10 – 27) such that the

sorting subroutine can perform in one of four ways: the first will put the highest value as

entry[0], the second will put the highest value at the last position, the third and fourth

being case-insensitive versions of the first two processes (read as further configured to enable a user to select whether to perform a case-sensitive or case-insensitive search of the dictionary) (page 3 of 6 lines 5 – 11);

the dictionary can be ordered such that capital letters would all go either before or after the lowercase ones, and numbers starting with the same number would be associated (read as an ordering module configured to order the terms in the dictionary based in part on the binary numbers corresponding to the ASCII coding of alphanumeric characters comprising the terms in the dictionary) (page 18 lines 8 – 20).

However, United Scripters 1 does not specifically disclose sorting the terms based on capitalization.

, United Scripters 2 however discloses a method such that a case sensitive and case insensitive routines can be used to sort the Array, such that all capital letters will come before all lower case letters (read as the dictionary sorting function sorts the . ordered list into one or more blocks of equivalent terms and sorts equivalent terms with upper case letters before equivalent terms with lower case letters) (page 3 lines 1 – 18).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sorting algorithm taught by United Scripters 2 into the binary search taught by United Scripters 1 for the purpose of allowing the an Array to be sorted properly, prior to searching.

United Scripters 1 as modified by United Scripters 2 shows the claimed invention except that a search engine can be used for this purpose.

In the same field of endeavor fsu.edu clearly shows a system for searching a dictionary such that users can tell the search engine if they want a case sensitive or case insensitive search (read as a search engine configured to receive a user search query for a search of the dictionary, and to return a search result list, and wherein the search engine is further configured to enable a user to select whether to perform a case-sensitive or case-insensitive search of the dictionary) (page 1 lines 26 –29).

Therefore it would have been obvious to one of ordinary skill in the art to combine the search engine taught by fsu.edu into the sorting system taught by United Scripters 1 as modified by United Scripters 2 for the purpose of allowing this system to be used across different platforms.

Consider **claim 14** and **as applied to claim 13 above**, United Scripters 2 clearly show a system wherein an Argument determines whether the sorting will or will not be case-insensitive (read as a dictionary sorting function that sorts the ordered list of terms base on case-sensitivity or case-insensitivity in accordance with a user selection from the search engine) (page 3 lines 23 – 34).

Response to Arguments

09.   Applicant argues that there was in improper combination of documents for the 35 U.S.C. §102(a) rejection. Examiner respectfully agrees and apologizes for prior improper combination. The references, although by the same author and even date, since listed as two separate entities, are in fact two different references. This Office

Action has been properly updated to show this. The Office Action has also been labeled correctly and labeled clearly, as to assist the Applicant with clarity.

Applicant argues that United Scripters 1 does not disclose every features of claims 1, 6, and 13 and that the rejection should be withdrawn. More specifically, Applicant alleges that United Scripters fails to teach "setting a dictionary sorting function to sort the ordered list of terms based on case sensitivity/insensitively, the dictionary sorting function sorts the ordered list into one or more blocks of equivalent terms and sorts equivalent terms with upper case letters before equivalent terms with lower case letters". Examiner respectfully disagrees. United Scripters 1 mentions how the Array absolutely must be sorted in order for the binary search to properly work. It is then disclosed by United Scripters 2 various methods for sorting the Array (including ones based on case sensitivity and case insensitively) so that the search can operate effectively. United Scripters 1 is clearly showing that the Array must be sorted and United Scripters 2 is providing methods to do so.

Conclusion

10.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11.   Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

> Commissioner for Patents
> P.O. Box 1450
> Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

> Customer Service Window
> Randolph Building
> 401 Dulany Street
> Alexandria, VA 22314

12.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Christopher Raab whose telephone number is (571) 270-1090. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Christian Chace can be reached on (571) 272-4190. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Christopher Raab KBP
C.R./cr

April 08, 2007

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER